



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,436	04/02/2001	Toshiaki Yoshihara	0671.65390	8194

7590 12/23/2003

Patrick G. Burns, Esq.
GREER, BURNS & CRAIN, LTD.
Suite 2500
300 South Wacker Dr.
Chicago, IL 60606

EXAMINER

LEWIS, DAVID LEE

ART UNIT	PAPER NUMBER
----------	--------------

2673

DATE MAILED: 12/23/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/824,436

Applicant(s)

YOSHIHARA ET AL.

Examiner

David L Lewis

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (5724057) in view of Silverbrook (5793345).**

3. **As in claim 1, Kimura et al. teaches of a liquid crystal device, figure 1 item 10,** ^{C5L15-17}
comprising: a liquid crystal material, figure 1 item 10, being responsive to an applied
signal for writing data and controlling a light transmittance of said material, ^{C10 47-21} **figures 4,**
wherein a voltage of said signal corresponding to an image to be displayed and switched
by thin film transistors, ^{C5L25-30} figure 2 item 24, is offset positively or negatively from 0 V at
said material except during signal application, **figure 7A item data voltage.** However
Kimura is silent as to said LCD characterized by spontaneous polarization. **Silverbrook**
teaches of said LCD characterized by spontaneous polarization, column 2 lines 5-11 and
62-67. Because said LCD's having spontaneous polarization are known in the art, they
would have been an obvious design choice given for the display of Kimura is designed

for use with an LCD. **As in claim 2**, Kimura et al. teaches wherein said signal is offset positively or negatively so that a light transmission through said liquid crystal material being driven by said signal becomes to be blocked, **figure 7A item voltage between electrodes**.

4. **As in claim 3**, Kimura et al. teaches of a liquid crystal device comprising: a first substrate including a first electrode on a first face thereof, **figure 1 item 20**; a second substrate including a second electrode on a second face thereof, **figure 1 item 22**, wherein said second substrate and said first substrate are sealed spaced apart so that said first and second substrates face each other, **figure 1 items 20 and 22**; a liquid crystal material filled in a space between said first and second substrates, **figure 1 item 18**; a first voltage generating circuit for supplying a voltage to said first electrode, **figure 2 item 30**; and a data signal circuit for supplying a data pulse to said second electrode, **figure 2 item 34**, wherein a voltage across said liquid crystal between said first and second electrodes is kept positive or negative with respect to a reference voltage of said device except during said data pulse application when an image is displayed, **figure 7A item data**. Further for the same reasons of obviousness applied to claim 1, said spontaneous polarization would have been obvious in view of Silverbrook. **As in claim 4**, Kimura teaches wherein said data pulse is offset positively or negatively so that a light transmission through said liquid crystal material being driven by said pulse becomes to be blocked, **figure 7A item voltage between electrodes**. **As in claim 5**, Kimura teaches wherein said second substrate having an active element electrically connected to said

second electrode so as to electrically control a picture element, figure 2 item 24. **As in claim 6**, Kimura teaches wherein said voltage supplied by the said first voltage generating circuit is offset so that a voltage across said liquid crystal material between said first and second electrodes is kept positively or negatively to said reference voltage of said device except during said data pulse being applied, figure 7A.

5. **Further, as in claim 7, Kimura is silent as to said monochromatic lights and time division driving.** Said monochromatic lights, column 12 lines 10-15 and time division driving, column 2 lines 20-30 and 45-50, as taught by Silverbrook are known apparatus and method for driving a TFT LCD based matrix display, as taught by Kimura, and would be obvious design choice to an enhanced matrix display for the purpose of displaying images as suggested by Kimura. **Further, as in claims 8**, Kimura is silent as to said polarizer films provided on each outer face of said first and second substrates, however said feature would have been an obvious design choice to enhance the display as known in the art as supported by Silverbrook, . **Further, as in claims 9 and 10**, Kimura teaches of a common reference voltage generating circuit for defining a reference voltage of said data signal electrode, figure 2 item 26, figure 8 item 74, and a common electrode voltage generating circuit for supplying a voltage to said common electrode, figure 2 item 26, figure 8 item 74, wherein said common voltage is offset to positive or negative voltages when an image is displayed figure 9A item common voltage. As in claim 11, Silverbrook teaches of said color filter for the same reasons of obvious as applied to the preceding claims.

6. **As in claim 12, Kimura teaches of** a liquid crystal display panel comprising a first substrate including a common electrode on a first face thereof, **figure 1 item 20**; a second substrate including data bus lines, scanning bus lines, and switching elements which are connected to one of said data bus lines and one of said scanning bus lines on a second face thereof, **figure 1 item 22 and 24**, wherein said second substrate and said first substrate are sealed spaced apart so that said first and second faces face each other, **figure 1 item 18**; a liquid crystal material having spontaneous polarization filled in a space between said first and second substrates, **figure 1 item 18 in view of Silverbrook**; a common reference voltage generating circuit for defining a reference voltage of said data signal electrode, **figure 2 item 26, figure 8 item 74**, and a common electrode voltage generating circuit for supplying a voltage to said common electrode, **figure 2 item 26, figure 8 item 74**, wherein said common voltage is offset to positive or negative voltages when an image is displayed, **figure 9A item common voltage**.
7. **As applied to the above claims: As in claim 13, Silverbrook teaches of** wherein said liquid crystal material having spontaneous polarization is ferroelectric liquid crystal material, column 2 lines 5-10 and 63-76. **As in claims 11 and 14, Silverbrook teaches of** wherein said first substrate has a color filter, column 7 lines 5-11 and 33-36. **As in claims 15, Silverbrook teaches of** further comprising: polarizer films provided on each outer faces of said first and second substrate, wherein said common voltage is offset so as that a light transmission of said liquid crystal material becomes to be block, column 11

lines 61-67. **As in claim 16, Silverbrook teaches of** further comprising: a light source emitting a plurality of monochromatic colors, wherein each monochromatic color is emitted by said light source time divisionally in synchronism with a operation of said liquid crystal display panel, column 20-30 and 45-55, column 7 lines 5-11, column 12 lines 9-20, wherein said feature are implied by Silverbrook given said structure.

Response to Arguments

8. Applicant's arguments filed 11/3/2003 are moot given the new grounds for rejection. See the above rejection over Kimura in view of Silverbrook.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(703) 306-3026**. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on (703) 305-4938. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Art Unit: 2673

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600